DOCUMENT RESUME

ED 474 628 CS 511 909

AUTHOR	Rohland, Mark, Ed.
TITLE	Successful Reading Instruction: Reports and Recommendations from a National Invitational Conference.
INSTITUTION	Mid-Atlantic Lab. for Student Success, Philadelphia, PA.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
PUB DATE	2002-03-00
NOTE	22p.
AVAILABLE FROM	Outreach and Dissemination Unit, Temple University, 1301 Cecil B. Moore Ave., Philadelphia, PA 19122-6091. E-mail: lss@vm.temple.edu. For full text: http://www.temple.edu/lss/pdf/lssreview/ lssrev_reading.pdf.
PUB TYPE	Collected Works - Serials (022) -- Reports - Descriptive (141)
JOURNAL CIT	LSS Review; v1 n1 Mar 2002
EDRS PRICE	EDRS Price MF01/PC01 Plus Postage.
DESCRIPTORS	Instructional Effectiveness; *Literacy; Preschool Education; Primary Education; *Reading Achievement; *Reading Comprehension; *Reading Difficulties; Reading Improvement; *Reading Instruction; Technology Integration
IDENTIFIERS	*Reading First

ABSTRACT

Within the context of President Bush's Reading First and Early Reading First initiatives to improve early literacy skills for preschool children and reading literacy skills for primary children, a national invitational conference on successful reading instruction was held in Washington, DC, on November 12-13, 2001. It focused on determining how best to implement what is known about reading instruction and how to make the most informed judgments in cases where research offers less guidance. To frame discussion, the conference organizers commissioned papers from scholars of reading on a variety of topics important for linking research to both policy and practice. Educators, researchers, policymakers, and parents were invited to discuss the implications of the papers and to discuss their experiences, concerns, and lessons learned. This issue of "The LSS Review" provides a synopsis of those recommendations and summaries of the commissioned papers. It contains the following papers: "Linking Reading Research and Practice: Next-Step Recommendations" (Michael L. Kamil; Herbert J. Walberg; JoAnn B. Manning); "Successful Uses of Computer Technology for Reading Instruction" (Helen S. Kim and Michael L. Kamil); "How Can Children Be Taught to Comprehend Text Better?" (Michael Pressley and Katherine Hilden); "Interventions for Children Experiencing Early Reading Difficulties" (Rebecca Barr); "From Policy to Practice: Using Literacy Standards in Early Reading Instruction" (Deanna Birdyshaw; Ellen Pesko; Karen Wixson; Nina Yochum); "Improving Reading Achievement through Professional Development" (Dorothy S. Strickland); "Reading in Discipline/Content Materials" (Donna Alvermann); "Engagement and Motivation in Reading Instruction" (John T. Guthrie); and "Good First Teaching: Making the Critical Difference for All Students" (Gay Su Pinnell). (NKA)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 474 628

Successful Reading Instruction: Reports and Recommendations from a National Invitational Conference. LSS Review, Volume 1, Number 1, March 2002.

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

CS 511 909

BEST COPY AVAILABLE

The Mid-Atlantic Regional Educational Laboratory

Laboratory for Student Success

The LSS Review

a catalyst for merging research, policy, and practice

Volume 1 • Number 1 • March 2002

Successful Reading Instruction

Reports and Recommendations from a National Invitational Conference

Michael L. Kamil, Stanford University; Herbert J. Walberg, University of Illinois at Chicago, Emeritus, and the Hoover Institution; and JoAnn B. Manning, Executive Director, Laboratory for Student Success, Temple University Center for Research in Human Development and Education

Early in 2001, President Bush announced his Early Reading First and Reading First initiatives, which aim to improve early literacy skills for preschool children and reading literacy skills for children in kindergarten through third grade. A new Reading First State Grants program would help states and local educational agencies implement comprehensive K–3 reading instruction grounded in scientifically based reading research. The president's initiatives were timely, given national concern about children's scores on reading assessments and increasing interest in effective reading instruction among researchers.

Recent reviews of research in reading instruction, including the report of the National Reading Panel, the National Research Council's *Preventing Reading Difficulties*, and the third volume of the *Handbook of Reading*, highlight progress made in recent years. The panel's report presents evidence on effective methods for instructing all students, while the council's book shows what interventions work for children at risk. The *Handbook* volume combines historical analyses of research, syntheses of current research, and conclusions about future directions. These findings converge to illuminate the real progress made in understanding how reading ability is acquired.

However, gaps in our knowledge remain. Crucially, the connections between research findings and practitioner implementation need more attention. The panel's report indicates that much research is not sufficiently specific to offer direct guidance to practitioners. The ability to translate basic research findings into practice has clearly lagged behind the ability to conduct the research.

Within this context, a national invitational conference on successful reading instruction was held in Washington, DC, on November 12–13, 2001. Sponsored by the Laboratory for Student Success (LSS) at Temple University Center for Research in Human Development and Education, the conference focused on determining how best to implement what we know about reading instruction and how to make the most informed judgments in cases where research offers less guidance. To frame discussion, the conference organizers commissioned papers from scholars of reading on a variety of topics important for linking research to both policy and practice. Educators, researchers, policymakers, and parents were invited to discuss the implications of the papers and to discuss their experiences, concerns, and lessons learned.

General discussion centered on the research-oriented themes of technology, comprehension, assessment and standards, and intervention, and on the practice-oriented themes of professional development, discipline/content materials, motivation and engagement, and early reading instruction. Participants also met in small work groups to explore issues raised in the general discussion and to generate next-step recommendations for improving the links between research and practice. Groups were asked to consider research, policy, and practitioner steps and to consider the importance of collaboration among homes, communities, and schools.

This issue of *The LSS Review* provides a synopsis of those recommendations and summaries of the commissioned papers. In doing so, the issue contributes to a goal that conference participants identified as crucial to improved reading instruction: dissemination of research and practical knowledge in an understandable form that can facilitate the policies and classroom efforts that lead to successful reading instruction. ⌘

The LSS Review is a product of the Mid-Atlantic Regional Educational Laboratory, the Laboratory for Student Success (LSS), one of ten regional educational laboratories funded by the Office of Educational Research and Improvement (OERI) of the U.S. Department of Education. LSS seeks to provide research-based information to significantly improve the educational capacity of the region, including Delaware, Maryland, New Jersey, Pennsylvania, Washington, DC, and the nation. Inquiries about the work of LSS should be sent to the Outreach and Dissemination Unit, Temple University, 1301 Cecil B. Moore Avenue, Philadelphia, PA 19122-6091, lss@vm.temple.edu. Copyright © 2002.

BEST COPY AVAILABLE

Linking Reading Research and Practice

Next-Step Recommendations

Michael L. Kamil, Stanford University; Herbert J. Walberg, University of Illinois at Chicago, Emeritus, and the Hoover Institution; and JoAnn B. Manning, Executive Director, Laboratory for Student Success, Temple University Center for Research in Human Development and Education

Although not all conference participants agreed on all points, and the work groups did not focus on identical questions and issues, each group achieved considerable consensus. The groups echoed several recurring themes and common recommendations.

Research and Instruction

The research discussed in the conference papers offers many evidence-based conclusions and recommendations with respect to reading instruction and research. Even so, the conferees singled out several points that they believed deserve priority.

More research is needed on what knowledge students have, so that teachers can better know what they need to learn, particularly at the high-school level, where more and more students need remediation. Indeed, research on remediation in general, in addition to problem prevention, should have high priority.

Researchers and professional developers should help teachers learn how and when to use specific teaching strategies to improve reading achievement. Teachers also need help in adopting effective strategies into their regular teaching practice. Some teachers, developers, and researchers have demonstrated such effective strategy utilization, but more research is needed on how best to bring such utilization to scale.

Scholars and developers as well as educators should think about how to attain the several ends of reading instruction simultaneously. In particular, instruction should foster both comprehension and critical thinking. A school's reading program should focus on closing the gap between good and poor learners, but not at the expense of high-level thinking. To accomplish more than previously, the links between reading and writing should be fostered. Teachers at all levels, moreover, must be able to make time for all components of good reading instruction in their classrooms.

Some researchers neglect the views of clients. Investigators should ask students about what works and about how they learn to read. They should also examine students' performance and their work products for useful information. Students can be truthful sources of data.

Finally, it was recommended that researchers and educators collaborate more closely. Partnerships among school districts, local universities, and local education associations should be fostered, since they can enhance and inform research. Educators themselves should be encouraged to conduct more field-based research in their classrooms, even if it does not reach the level of peer-reviewed research. They can share their findings in various forums, including local newsletters and Internet websites.

Assessment

In the teaching of reading, the state of assessment practice lags behind the state of the art, and assessment deserves close attention and improvement. For example, what is clearly needed is comprehensive, longitudinal assessment of students as well as periodic assessment of reading professionals—teachers, reading specialists, and administrators. It would be reasonable, of course, to provide comprehensive professional development prior to assessing professional competencies.

The nation, states, and schools are presently focused on standards, and that may have potentially constructive consequences for reading. Teachers, for example, might benefit greatly from having additional diagnostic information on their students' reading strengths and weaknesses. Since teachers regularly assess their students, moreover, classroom and external assessments should be better aligned.

Professional Development

The design of professional development for literacy education and in particular for reading instruction requires rethinking. Most likely to build capacity within schools is a comprehensive approach not only for teachers but also for reading specialists and administrators. Researchers and professional developers need to work together on developing comprehensive staff development programs.

Staff development should be sustained, focused, and continual, whether delivered by district-level or by school-level staff. It works best when it is tailored to match the needs of educators and students in each school. For this reason, professional development needs to be focused on identified school and student needs rather than on recent fads.

State-of-the-art instructional practices should be modeled and encouraged. After demonstrations by exemplary teachers, however, principals and teachers may be intimidated, or they may misunderstand what they have seen. Thus, follow-up debriefing and discussion should be offered to avoid their reaching the wrong conclusions.

Staff development should not be done halfway; successful implementation of the training requires follow-up support, coaching at the classroom level, and facilitation of support groups. Capacity can also be fostered by developing cadres of in-house staff developers who can garner recognition and prestige. Moreover, reading competence can be furthered by integrating reading and literacy ideals and practices into content areas such as social studies and science.

At the same time, individual teachers have needs that should be addressed. They need autonomy, particularly control over program decisions and teaching context. They also need time to collaborate with their colleagues and researchers and to reflect on their own practices. Therefore, teachers should be given more power in shaping curriculum and more opportunities for professional development.

To enhance teacher quality, districts should work to define teacher talent and recruit able reading teachers. Teacher compensation should be raised to give incentives for professional growth.

Teachers should be given more knowledge about ways to increase student interest in reading, for example, through minilessons, problem solving, hands-on activities, and other creative means of providing interesting content.

Though they lacked unanimity, some participants recommended major reforms in reading instruction. To accomplish what is needed, teaching may need to become a 12-month job with extra days for professional development. Further, all first-grade teachers should have a reading-specialist degree. And to maintain baseline level for professional development, only certified teachers should be employed in the classrooms.

Resources

More effort should be made to invest in early intervention to avoid or remediate reading difficulties. Yet the middle-school schedule too should reflect a high priority for literacy as indicated by increased time for intensive reading instruction and by small reading groups.

Intensive intervention modes for special-needs students of reading instruction should be implemented. Indeed, there should be more support for enabling all groups, including second-language learners, to acquire literacy. Decision makers should examine the resources allocated for students who are already achieving in reading and allocate sufficient resources where they are lacking in order to obtain more equitable achievement results.

Teachers, schools, and students should be provided with access to an abundance and variety of reading resources. These should include leveled books. Moreover, reading materials should be more varied in content, genre, challenge level, and format (for instance, written or electronic). Each school should have high-quality school and classroom libraries. Also important is equity of access to technological materials used for reading instruction.

Educational decision makers—including governments, universities, and school districts—should be challenged to allocate a significant and greater percentage of their resources for the sole purpose of improving instruction in literacy.

Parents and Community

Parents should be provided with selected parts of the knowledge base in reading that teachers and reading experts have. This knowledge sharing will enable parents to foster their children's reading abilities. Parents with preschool children are particularly likely to benefit. Preschool programs should provide literature-rich early environments, including read-aloud activities in homes, schools, and communities.

There should be a support system for increasing parental understanding and access to resources, including materials for home use, training in mentoring, and increased teacher–parent communication. Funds should be increased to support local libraries in urban communities, and librarians should work to increase library access in these and other communities. At the same time, parents should have more accountability for helping their children achieve reading goals.

Communication

The public and legislators need to know more about the value of financial investment in reading research and professional development. Participants reasoned that since elected officials respond to pressure from advocates, the more pressure they feel, the more likely they are to respond. It was stressed, however, that advocacy in this regard should be based on evidence. A good example to present to policymakers is the successful early reading intervention in the lives of children placed at risk for school failure. Policymakers should have better access to such evidence of effective instructional strategies.

Finally, work-group participants stressed that the field of reading instruction would benefit from synthesizing research findings so that they are more accessible to practitioners. Moreover, reading specialists, school psychologists, and others similarly require accessible research so that they can demonstrate to practitioners what the findings look like in classroom settings. Researchers and decision makers should support dissemination of current research findings in clear, understandable forms aimed at an audience of busy practitioners. The Internet was recommended as a means of disseminating accessible, usable findings.

Conclusion

The conference papers, general discussion, and work groups all pointed to the conclusion that better links between research and practice are both necessary and achievable. It was concluded that especially important in forging those links is improving the transfer of expertise from researchers to practitioners and, ultimately, to students. Participants observed that reading scholars, teachers, and parents can all help students learn to read better if they themselves endeavor to become better readers of what they have to learn from each other. ⌘

Successful Uses of Computer Technology for Reading Instruction

Helen S. Kim and Michael L. Kamil, Stanford University

Though computers are being used increasingly in educational contexts, little research on using computers in reading instruction exists. This paper discusses that small body of research and its implications for classroom practice. The paper examines the uses of computers for reading, writing, second-language learners, and at-risk learners. Also discussed are instructional considerations, future applications, limitations, and policy implications.

Uses of Computers in Reading Instruction

Technological advances continue to expand possibilities for using computers to support reading instruction. An important application is in direct instruction of basic skills. Computers offer engaging, interactive activities for general and targeted practice. They give immediate corrective feedback, and some programs provide incentives for progress to higher levels of difficulty. Teachers can also use programs to track student progress.

Further, computers allow students to create and share work. Some software allows them to create graphics and multimedia projects, while word processing facilitates writing projects. The Internet allows information sharing through such resources as online research, personal web pages, and e-mail. Moreover, electronic references allow students to conduct research more easily and in new and different ways from traditional research.

Research on the Advantages of Computers in Reading Instruction

Research is just beginning to clarify the cognitive and affective consequences of using computers to teach literacy. Investigations have shown that computer tools can enhance instruction. The use of word processors can produce better writing. Multimedia presentations can facilitate comprehension. Computers benefit diverse learners by allowing for individualized instruction. Computerized vocabulary tools enhance second-language learners' comprehension, and computer-assisted instruction teaches basic reading skills to students at risk. Moreover, studies have found positive effects on engagement and interest, particularly for students with learning difficulties.

As computer technology rapidly transforms literacy activities, research indicates that the technology has important implications for reading instruction. The authors highlight research and implications for practice in six areas of application: writing assistance, comprehension support, beginning reading instruction, vocabulary instruction, support for second-language learners, and assistance for at-risk students.

Writing

Research clearly indicates that word processing fosters writing skills when students are able to create multiple drafts and revisions. Revision prompts may be necessary to produce improvements, underscoring the importance of implementing word processing in a context of instruction. Students benefit when word processing is integrated with reading and writing.

Comprehension Support

Electronic applications can improve comprehension by providing information in a variety of media, including video, audio, and hypertext. Multimedia presentations can improve retention and comprehension of information. In one study, dynamic images were more effective than static images in supporting story comprehension and recall among kindergartners, facilitating understanding of hard-to-imagine concepts and relationships. This suggests that integrating dynamic visual information with text in instructional practice could enhance understanding of complex information. In selection and use of materials, multimedia materials should be evaluated for their effectiveness in such integration.

Beginning Reading Instruction

Interactive technologies like touch screens help beginning readers who cannot use keyboards. Moreover, computerized direct instruction significantly augments reading skills like phonological awareness, and computerized speech feedback during independent reading practice augments beginners' skills, with one study showing significant gains over controls on a standardized reading test. These findings highlight the advantages of using computer speech and specialized programs to help beginning readers. Further advantages for beginners include computer-assisted practice targeted to specific strengths and weaknesses as well as enhanced engagement and corrective feedback through interactive games.

Vocabulary Instruction

Computers can enhance the learning of definitions. A National Reading Panel review of vocabulary-instruction studies underscores the importance of the engagement that multimedia and technological tools provide in learning vocabulary. Visual and speech prompts increase word learning in elementary-school readers. Intermediate-grade students can also benefit from computer-assisted vocabulary instruction. One study showed those receiving mandatory assistance outperforming those participating voluntarily. In practice, computers can both facilitate isolated word learning and provide vocabulary assistance during text reading.

Second-Language Learners

Because instruction can be customized, repeated, or augmented with multimedia information, computers are useful in second-language reading and reading instruction. Research has shown that simultaneous visual and verbal support and electronic dictionaries are particularly helpful. These results underscore the need for careful selection and integration of software in second-language instruction.

At-Risk Students

Research has generally found computers useful for assisting both younger and older students at risk because of learning disabilities or socioeconomic disparities. In one investigation, low-achieving fifth graders with daily computer instruction had higher reading gains than those receiving traditional instruction. In another study, socioeconomically disadvantaged sixth graders benefited more from a computerized self-assessment of reading comprehension than from traditional instruction. At-risk students may particularly benefit from assistive technologies providing additional practice with literacy skills and facilitating individualized instruction.

Instructional Considerations

In implementing technology for reading instruction, several considerations must be borne in mind. First, young readers may not be proficient in basic computer skills, and they may encounter problems in learning to integrate multimedia information. Research indicates that younger children do not explicitly link text and diagrams in science reading. Hypertext presents children with decisions about the relative importance of links that may cause confusion. Specific instruction in hypertext reading and navigation is essential.

Further, children often need directive instruction to understand combinations of pictorial and textual information. This instruction should provide details about salient information to attend to and should elicit dialogue about similarities and differences between visuals and text. Such directive instruction can help readers integrate material and improve comprehension and recall.

Finally, preliminary research has identified the role of strategy use in reading outcomes. Some strategies, such as identifying important hyperlinks and using a variety of strategies, have been correlated with more successful outcomes. Novice readers may benefit from multimedia documents and directive instruction carefully chosen to develop such strategies.

Future Uses

Developments in adaptive computer technologies will soon afford new opportunities for teaching literacy skills. Improved speech synthesizers will better assist learners in pronouncing words and identifying writing errors. Increasingly accurate speech-recognition technology, since it does not rely on spelling or writing ability, may be useful for prereaders and special populations with writing difficulties. Advances in artificial intelligence promise more interactive learning assistance, as adaptive-learning agents offer readers more help in web navigation and in finding salient, relevant information. More research needs to be conducted on the use of such technology in teaching reading strategies.

Limitations of Using Technology

Despite the positive outcomes reported, the sparse research on the effects of computer tools on learning outcomes makes it difficult to formulate research-based general guidelines for using computers. Additionally, some studies have found neutral or negative outcomes from computer use, especially for students with low prior knowledge. More focused, interdisciplinary experiments exploring the cognitive and affective processes involved in children's reading of multimedia text are needed. These will help educators balance traditional and novel approaches in literacy instruction.

Conclusion and Policy Implications

Research shows that reading-instruction technology facilitates comprehension, supports a wide variety of literacy tasks, and provides customized support for special populations. Technology should be integrated with traditional instruction, and directive guidance in its use should be offered.

For successful implementation of this technology, the following policy implications merit consideration. First, all students should have access to the technology, since proficiency in processing multimedia and Internet information is becoming an educational necessity. Students without home computers may benefit from computers available through after-school programs and community centers. Moreover, access must be combined with specific instruction, especially for students unfamiliar with technology.

Further, research in the late 1980s showed that computers were more cost-effective than such interventions as hiring additional teachers and that they contributed to substantial reading-achievement gains. We can speculate that today's more powerful and less expensive computers may be even more cost-effective and influential. However, regardless of these issues, it can be argued that computers are so important to the futures of students that they need to be part of instruction.

Even more crucial are policies enabling integration of technological tools into reading curricula to maximize benefits. This incorporation should always entail attention to providing instruction to help readers use the tools. Providing children with opportunities to acquire reading and writing proficiency through computers can help bridge the digital divide in an economy that increasingly requires technological skills for success. ⌘

How Can Children Be Taught to Comprehend Text Better?

Michael Pressley and Katherine Hilden, University of Notre Dame

The hallmark of good reading is that readers actively comprehend and interpret texts, often at several levels, as is necessary in reading complex literature. Excellent readers understand what they read by bringing prior knowledge to new texts and using active strategies to discover meanings. Some reading educators feel that developing excellent young readers is too distant a goal; thus, they aim primarily at teaching children to recognize words.

This article disagrees with that perspective, however, arguing that learning to recognize words is only one of the many competencies necessary for children to become strong readers. Reading involves simultaneous, concerted development of word recognition, comprehension, and interpretational skills. Researchers have progressed in identifying the instructional practices that help young readers develop these skills. This article reviews components of skilled comprehension and of comprehension instruction that make for good readers.

Skilled Comprehension

Research asking readers to think aloud as they read shows that skilled reading is both active and coherent. Readers construct meaning before, during, and after reading. Skilled readers know why they are reading, and they use their goals to guide them. They often engage in a prereading skim of the text to distinguish relevant from less relevant material and to gain an idea of the form and content. While reading generally progresses from beginning to end, skilled readers know when to skip and when to reread. They also know when to reflect and take notes, especially when reading difficult texts. As they read, skilled readers anticipate what will be revealed, compare it to what they have expected, and adjust their goals accordingly.

Skilled readers also engage in five key functions:

- They *identify important information*. They look for and remember key points, noticing relevant new ideas and vocabulary.
- They *make conscious inferences*, using prior knowledge to fill in details and construct explanations about actions, people, and authors.
- They *integrate parts of texts*, consciously relating compenents and summarizing the whole. Holding key ideas in mind, they reread when they have not understood something important.
- They *interpret*, reaching conclusions about the purposes of a work or about lessons to be drawn from it.
- They *monitor* a text's difficulty, the author's strategies, and the relation of the ideas in a text to their own thinking. Aware of their degree of understanding and appreciation, they know whether problems they encounter during reading arise in texts or themselves.

Having finished a text, good readers consider whether they have attained their goals, and if not, they may decide to reread, study, or take notes. They also reflect on the reading to prepare for future use of the knowledge. Both during and after reading, good comprehenders evaluate a text extensively, forming opinions. They consciously accept or reject an author's conclusions on the basis of reasoning and evidence. They also evaluate the quality of the author's style. Skilled readers, then, use strategies that separate them from struggling readers. These include using prior knowledge, self-questioning, seeking clarification, and making interpretations.

Comprehension Instruction

Nevertheless, research indicates that little comprehension instruction takes place in classrooms beyond asking literal questions about texts. Teachers do not promote deeper understanding and active interpretation. However, we do know how to achieve those goals through various modes of instruction.

Individual Strategies Instruction

Much research has focused on whether increased use of a single strategy, such as self-questioning, improves comprehension. Studies typically compare participants using the strategy to controls on some measure of comprehension. The positive results are relevant to teaching comprehension. For example, children do not usually form mental images of what is described in text, but they can be taught to form images, with improved reading memory. Furthermore, children can use schematic knowledge (for example, the pattern of a ship's christening) learned earlier to understand new text that they encounter. Other research illustrates that since readers naturally integrate textual details into higher order ideas called macropropositions, teaching summarization to encourage the formation of macropropositions improves text memory and comprehension. Further, teaching children to generate questions and answers about readings stimulates deeper thinking, and teaching them to heed key elements of story structure like character and problem solving improves comprehension.

Multiple Strategies Instruction

Despite its benefits, individual strategies instruction entails problems. Teaching a strategy does not

guarantee that it will be used in a sustained way, and transferring it to new situations is difficult. Cognitive psychologists have concluded that readers need both strategies and accompanying metacognition: They need to know how to monitor the skills they are taught and know when to use them. Research shows that expert readers monitor their comprehension and know how to implement strategies when they do not understand; crucially, they coordinate numerous strategies. Thus, instruction for young readers should focus on teaching not single strategies but the coordinated use of several strategies. And since mastery of strategies requires practice, instruction should include extensive practice, particularly in transferring strategies that young readers know to new readings, so that they understand better how and when the skills are valuable.

Such multiple strategies instruction has been tried before in the influential study skills movement. The best-known multiple strategies approach in the movement was SQ3R (survey, question, read, recite, and review). Though the approach improved comprehension slightly, it was a rigid method that was in conflict with the flexible approach of expert readers. It was taught without metacognition about how and when the approach might work best. A related but less rigid multiple strategies approach was reciprocal teaching. Here, students were taught to make predictions before reading, ask questions about texts, seek clarifications when confused, and summarize ideas. Teachers modeled the strategies; then students practiced them extensively. As with SQ3R, comprehension improved only slightly. More recent multiple strategies approaches have used additional strategies, greater teacher involvement, think-aloud reporting in small groups, and longer practice. Additional strategies include predictions from prior knowledge, self-questioning, image construction, relation of content to prior knowledge, and comprehension monitoring.

Since readers differ in their prior knowledge and experience, they interpret texts differently and personally. A recent multiple strategies approach that accounts for these differences is transactional strategies instruction. This approach, which views comprehension as a transaction between unique readers and texts that are open to interpretation, has resulted in dramatic comprehension improvement in well-controlled studies. Its success recommends it for K–12 comprehension instruction. To teach students a repertoire of strategies, transactional instruction begins with direct explanation and modeling. This is followed by teacher-supported practice to encourage long-term internalization of the strategies. A notable outcome has been the success of this method with previously low-achieving second graders. It is clear that even primary students can benefit from learning multiple strategies.

Other Keys to Comprehension

Excellent comprehension requires not only strategies but also prior knowledge, especially understanding of individual words; evidence supports the logical assumption that enriching vocabulary increases comprehension. This evidence includes results from reasonably well-controlled experiments in which some students were given vocabulary-enrichment instruction and others were not. However, most word meanings are learned not through direct instruction but in context. Thus, students should be taught to heed context clues when encountering new words. Context helps readers determine whether guesses about sounds and word meanings are correct, particularly when readers have already encountered the words in speech. Vocabulary and context skills can help young readers avoid making mistakes about key words that can defeat comprehension.

Further, as E. D. Hirsch has argued, children need to read high-quality books to gain the deep cultural knowledge that educated people enjoy. Though research is needed to link such reading with comprehension gains, research shows that boosting cultural knowledge in schools raises elementary language-arts achievement.

Although overemphasis on word recognition works against comprehension, recognition must be high if comprehension is to be so. Without automatic word recognition, efforts to comprehend compete in consciousness with more immediately important recognition efforts, and comprehension suffers. Hence, word recognition must be developed well beyond the ability to sound out words, so that recognition is effortless and larger units than words can be grasped quickly.

To summarize, research demonstrates that the multiple strategies used by expert readers can be taught and that transactional instruction teaches them effectively. Also important is a good prior knowledge base for further reading. We should both teach comprehension skills and encourage students to read high-quality texts that foster sophisticated vocabulary and cultural knowledge.

Conclusion

We can develop students' comprehension, but the task will not be accomplished easily or quickly. One reason for slow progress to date is that relevant research is not translated into practice, partly because teachers resist teaching comprehension. One way to overcome their resistance is to inspire them to become better comprehenders themselves. If they use comprehension strategies more effectively in their own reading, they may be more motivated to teach the strategies to their students, who may become parents teaching their children to read with more understanding, creating a nation of expert readers. ⌘

Interventions for Children Experiencing Early Reading Difficulties

Rebecca Barr, National-Louis University

A national consensus maintains that all children must learn to read. While most achieve this goal, some learners struggle with reading. For them, special reading interventions can improve their progress so they can benefit from classroom instruction.

In the 1990s, numerous studies described interventions designed to improve children's reading development. These interventions have tended to be of three types. First, *comprehensive classroom programs* represent a new adoption or restructuring of a literacy program. Such programs are not considered here, since evidence suggests that these are not the most effective interventions. Second, *focused interventions* supplement classroom programs with instruction in particular skills or strategies for classes, small groups, or individuals. These interventions help build early readers' print knowledge, language facility, and vocabulary in classrooms where not all children gain this knowledge adequately. Focused interventions should be implemented with attention to specific needs of targeted readers. Third, *comprehensive interventions* supplement classroom programs with comprehensive instruction for small groups or individuals in print knowledge and language concepts. Reading Recovery and similar programs exemplify this type. This paper reviews the research on the two latter types of intervention and discusses implications for school policy, practice, and assessment.

Focused Intervention Programs

Below, I examine focused interventions in four areas in which there has been substantial research: phonemic awareness, phonics, fluency, and vocabulary. Since the first three print-related areas are appropriate for intervention at different stages of children's reading development, I describe the relation of these stages to intervention.

Phonemic Awareness

Developmental models highlight phonemic awareness—children's ability to recognize and analyze spoken sound structures of words—as a precursor to reading acquisition. Generally, phonemic-awareness training has been studied as a supplement to ongoing classroom instruction. A National Reading Panel (NRP) meta-analysis of phonemic awareness interventions revealed that this training had statistically significant effects on phonemic-awareness knowledge. Higher gains were found for preschoolers than for older students. Gains were more moderate for outcome measures involving reading, with children in preschool, kindergarten, and first grade profiting most. Students of both low and mid-high socioeconomic status (SES) benefited. Intervention worked better when instruction involved letters to aid learning of phonemic components of words, teaching was limited to one or two skills, instruction was in small groups, and intervention lasted 5 to 18 hours over the school year.

Phonics

While phonics is related to phonemic awareness, it focuses not just on sounds but on letter–sound associations, decoding, and blending. Most research has not distinguished supplemental phonics instruction from ongoing instruction. Phonics instruction is typically compared to teaching approaches not emphasizing phonics, such as whole language. This research does not support the clear advantage of classroom phonics programs. NRP meta-analysis of phonics research showed that systematic phonics instruction, particularly as a supplement to classroom instruction, helped more than less systematic instruction. These moderate gains were more positive for younger children. First graders at risk benefited most, especially low-SES students. The most substantial outcomes for kindergartners and first graders were in decoding regular words.

Fluency

Experience shows that fluency comes mainly through contextual reading practice, not drill with isolated words. Contextual reading helps children consolidate sight-word knowledge and focus on meaning. Fluency develops gradually from word-by-word, effortful reading to a more automatic process. While reading practice and fluency are associated in research, a causal connection has not been determined. NRP analysis of research on guided oral reading practice and independent silent reading practice provides evidence to inform investigation of this issue. Results from guided oral practice were sufficiently positive to conclude that repeated oral reading improves fluency. Learning-disabled and transitional second graders benefited. Results from silent practice were less conclusive.

Vocabulary: Storybook Reading

Studies show that storybook reading influences development of receptive and expressive vocabulary. In formal schooling, children encounter content-area text that is increasingly decontextualized and conceptually challenging and that requires mastery of new vocabulary and sentence structures. Because of socioeconomic disparities in vocabulary and generally low vocabulary levels among early readers, development of children's knowledge of word meanings seems crucial. Much research has focused on the role of storybook reading in developing vocabulary. Such reading is social activity, responsive

to children's age and experience with books, that is elaborated through explanation and questioning. Meta-analysis shows that parent–child storybook reading is consequential for literacy growth and achievement. However, few studies examine storybook reading in preschool and primary classrooms. Research does indicate that storybook reading, coupled with teachers' explanations and open-ended questions, enhances listening and expressive vocabulary. Helpful are repeated readings of a book, particularly for low-SES children, and use of informational books to stimulate conceptual development.

Comprehensive Intervention Programs

Special tutorial and small-group interventions have long been used in combination with various literacy models. This paper focuses only on interventions for slowly progressing children.

Reading Recovery

This program, developed in the 1970s, has received considerable research attention and influenced a generation of educators. It differs from earlier programs in offering individual instruction to children at 6 years rather than later, providing a comprehensive lesson format, using assessment to inform every lesson, intensively training teachers, and defining successful intervention not by controlled experimental results but by bringing the lowest 20% of a class to average. Research shows that the program is generally effective; concerns focus on its cost.

Other Comprehensive Interventions

Other such interventions, many influenced by Reading Recovery, were developed and tested in the 1990s. According to NRP, *tutorial programs* similar to Reading Recovery realize similar success in improving word identification and comprehension for first graders at risk. Few programs have been developed for children in other grades. *Small-group programs* in phonemic awareness and phonics are effective for slowly progressing kindergartners and first graders. Studies of small groups of various sizes showed gains in children's word recognition, text reading, and standardized test scores. A comparison of Reading Recovery instruction with a small-group version of the program showed less advantage for small-group intervention. The federal America Reads challenge stimulated *volunteer tutoring* programs influenced by the comprehensive Reading Recovery model. Research on these programs is inconclusive because of the limited number of controlled evaluations.

Policy Implications

Research on the four areas of focused intervention and on comprehensive intervention suggests directions for literacy policy. Since kindergartners and first graders clearly benefit from phonemic-awareness interventions, they should be introduced in all kindergarten programs. Phonics-intervention research indicates that kindergarten and first-grade classroom programs should include explicit instruction in letter–sound associations, particularly for targeted groups of children. Guided, repeated oral reading should be widely used to improve early readers' fluency; more research needs to be conducted on the effectiveness of silent reading. To reduce the vocabulary gap between high- and low-SES children, more conceptually challenging materials and teacher-guided storybook reading should be implemented. As for comprehensive interventions, investigation shows that tutorial instruction should be promoted to support at-risk first graders and small-group instruction promoted to enhance reading in K–2 students.

Assessment

If interventions are to refine classroom programs effectively, early literacy assessment is needed to determine the interventions required. Illinois, for example, has developed an early literacy assessment to determine the need for both focused and comprehensive interventions.

Assessments at the beginning and end of the school year are useful in determining the need for focused interventions. Year-beginning assessments determine the extent of children's literacy knowledge, while year-end assessments examine student progress in relation to norms. A school literacy profile can be derived from year-beginning assessments to identify weak areas that interventions may improve. Year-end assessments can show how effective instruction has been and can relate different areas of progress. For example, lack of progress in phonemic awareness combined with progress in letter–sound associations could mean phonics learning is rote and more writing should be practiced.

Ongoing literacy assessments by teachers are needed to identify children not progressing well who may benefit from tutorial or small-group instruction. All children in the lowest 20% of an early literacy inventory should be considered. Assessments based on composite scores rather than single literacy measures are more reliable. Research shows that selection based on inventories is more accurate for kindergartners than for first graders. Most children needing help are identified, but schools need to institute ongoing monitoring of progress.

Summary

Research shows that early reading interventions can enhance classroom literacy programs and support the reading development of children who are not progressing well, especially when intervention needs are carefully assessed. The intervention approaches described here can help teachers and administrators achieve the goal of creating school literacy programs through which all children learn to read. ⌘

From Policy to Practice

Using Literacy Standards in Early Reading Instruction

Deanna Birdyshaw, Ellen Pesko, Karen Wixson, and Nina Yochum, University of Michigan

Although there seems to be widespread acknowledgment that teachers play a critical role in enacting standards-based policies, much of the policy research focuses on the inputs—the policies themselves—and the expected outcomes, or outputs, leaving the working space between them unexplored. When that space is explored, it is often through analysis of surface features such as teacher qualifications, school structure, or time spent on particular activities. If we want to understand the effect of policy on the quality of teaching and learning, then we must look at what happens between the inputs and the outputs. Such research must also consider the policy environments in which teaching and learning take place. This article discusses the role of standards in teaching and learning by exploring three teachers' participation in an "Exemplars" project designed to create examples of how teachers use standards and analysis of student work to guide their instruction. The experience of these teachers points to implications for reading policy and practice.

The Exemplars Project

The Exemplars project grew out of a larger effort, MELAF, the Michigan English Language Arts Framework project. The MELAF project was responsible for developing Michigan's integrated English language-arts standards. A unique feature of MELAF was its professional-development (PD) component, which created a network of four disparate district learning communities.

The PD effort of MELAF revealed a need to provide exemplars of how teachers implemented the new standards and documented students' progress toward achievement of the standards. Because the Michigan standards and benchmarks are organized by grade clusters (e.g., K–3, 4–6), there was a particular need for such information for the early elementary grades, where differences in expectations from grade to grade are significant. This need resulted in the creation of the Exemplars project to provide examples of what the standards look like in K–3 classroom practice. Nominations were solicited for exemplary teachers, and a group of eight teachers was selected and convened over the course of 2 years. The eight teachers were from three school districts varying in their degree of implementation of state English language-arts standards and in their level of student diversity.

The Exemplars teachers engaged in regularly scheduled (monthly or bimonthly) after-school meetings during the school year with more intensive meetings spanning several days in summers. The teachers developed common understandings about the meaning of the standards, what they looked like in practice, and methods for documenting progress and analyzing samples of student work. The work of the project became an opportunity for PD for the participating teachers, although they were already recognized as highly skilled. Because limited time was available to explore the standards and benchmarks, the group agreed to focus efforts on creating exemplars for key benchmarks related to standards on literature, genre and the craft of language, ideas in action, and depth of understanding.

The Exemplars Teachers

The three teachers featured here are representative of the three districts participating in the Exemplars project and of the diversity of approaches to implementing standards used by the larger group.

Ilse

Ilse, a first-grade teacher with 29 years' experience, worked in a midsized suburban district. Intensively involved in PD and curriculum development, her expertise in systematic school improvement methods helped her develop standards-based thematic units and link instructional episodes. Knowing that she wanted to help her students develop understanding of how authors use text structure and text features to convey meaning, Ilse began the school year by building their understanding of narrative text structure in fictional writing. Once her students demonstrated understanding of beginning, middle, and end as a simple narrative text structure, Ilse moved to informational text. She spent much time reading examples of informational texts, focusing on concept books with clear text structures. She wanted students to add the concept of supporting ideas to their understanding of simple text structure as a tool authors use to convey meaning. She moved back and forth throughout the year between narrative and informational text, each time adding complexity to the text structures and features her students explored.

A key feature in Ilse's practice was the seamlessness among instruction, assessment, and curriculum goals. Throughout the year as Ilse guided her students' exploration of genre and craft, she methodically merged assessment with ongoing instruction. She also believed that assessment should not only inform her practice but should also inform her students about their learning and their growing understanding of the standards and benchmarks. From the beginning of the year to the last day of class, she engaged students in conversations about performance standards—shared criteria that furthered their understanding and helped them evaluate their progress. Through systematic selection of learning episodes and scaffolding done throughout the year, Ilse helped her students successfully achieve complex learning goals.

Natalie

Natalie, who had 17 years' experience, taught in a K–1 multiage program in a large urban district where she occasionally team-taught with a colleague

in Exemplars. Although she had served on district committees exploring standards, she had yet to incorporate them in her practice. Natalie focused on translating standards into appropriate expectations, designing instructional episodes, and finding evidence of achieved standards. Her major concern was that the standards were very challenging for her young learners, but she continually refined her understanding of them until she developed strategies for helping her students meet the challenge.

Natalie focused on standards related to literature and depth of understanding. To teach key concepts, she used tradebooks to encourage children to link content to personal experience. When the children needed a firmer framework for understanding concepts, she linked key ideas found in literature such as "friendship" and "problem solving" to terminology for life-skills concepts familiar to her students. This framework gave her students a language to use as they discussed other texts read throughout the year.

To assess progress, Natalie kept anecdotal records of student responses. At year's end, to assess the depth standard's requirement of making connections across texts, she crafted an exercise allowing students to match book jackets to key ideas and explain the connections in writing and conversation. Natalie used assessment to move students toward standards she was uncertain they could reach. The alignment of standards, instruction, and assessment was a learning journey for her and her students. The standards identified the destination, but the assessment piece acted as a compass to guide her instruction.

HEATHER

A third-grade teacher in a small suburban district, Heather had 5 years' experience and had participated in curriculum development. She used a writing workshop structure in her classroom. Her district had begun to address standards but had not yet adopted state language-arts standards, so she had to work without school or collegial support. Adapting her classroom structure to incorporate standards, she focused on genre and craft standards, particularly the text feature of characterization. She linked a literary character to social-studies concepts like "caring" and "good citizenship" and asked students to write about character traits. Eventually they used knowledge of traits in their own stories. She found that focusing on characterization helped students develop deeper insights and accomplish more complex tasks than students in previous years.

Heather's plan for implementing the standards and benchmarks built upon the strong instructional format already in place in her classroom, her writing and reading workshop. She used information she was learning about the standards and benchmarks to "tweak" this existing framework and to add content related to the writing benchmarks and her social-studies content standards. The standards began to take on clearer meaning for Heather at the end of the project when she had an opportunity to reflect on the student evidence. She observed that the benchmarks provided focus and led to consistency in her practice.

What Was Learned

The Exemplars project revealed variations in instruction and assessment related to teachers' experience and local environments, indicating that understanding variations illuminates the black box of standards reform. For example, Ilse's and Natalie's practices were informed by collegial and district support that helped them address standards in depth. In contrast, Heather faced more challenges because she lacked such support; her pace of implementation was accordingly slower. Moreover, though teachers agreed that standards provided a road map for implementation, their ideas about the standards' mapping function varied. Ilse saw standards as destinations and planned clear routes, while Natalie created routes with students. For Heather, standards provided not destinations—her goal was excellent work—but guardrails as she modified curriculum.

Analysis of student work provided teachers with feedback for instructional decisions and with more concrete understanding of standards. Analysis helped Ilse decide when students could move to more complex work, while it gave Natalie confidence that students could master abstract concepts. Heather found that examining student work showed her ways to help students by differentiating instruction. Assessing work using standards reinforced teachers' high expectations and encouraged them to challenge students. Finally, conversation with others spurred learning and thinking in new ways. By providing mutual support and problem solving, Exemplars interaction motivated changed practice.

Implications

The Exemplars project suggests ways to promote standards-based practices in early reading instruction. At the teacher/classroom level, it is clear that even the best teachers struggle with using standards to improve their reading instruction. As with most expert practices, there appears to be a developmental progression for learning to use standards and student work effectively. To move along a continuum from novice to expert takes time and supports that provide multiple opportunities to learn. However, once on the path, it appears that the use of standards and student work can raise teachers' expectations for all students and increase their attention to aligning curriculum, instruction, and assessment.

In districts and states, effective standards and assessment require extended PD and leadership. Since districts and schools operate at different levels of readiness for standards implementation, state PD support needs to be strategic. Exemplars suggests that PD works better if practitioners are partners in constructing standards-based practice and that every opportunity for sharing insight counts. It may be valuable to invest resources more heavily in districts with a core community of teacher leaders who can share with others. ⌘

Improving Reading Achievement Through Professional Development

Dorothy S. Strickland, Rutgers University

Professional development for public school teachers has suffered from disorder, conflict, and criticism. Many teachers frustrated with insufficient or poor-quality staff development, especially in the crucial field of literacy education, desire more involvement in planning professional-development programs. Current efforts to reform literacy education offer an ideal opportunity to initiate and study more participatory professional-development programs. This article discusses teacher performance standards and professional development, implementation issues for successful professional-development programs, and specific program strategies.

Teacher Performance Standards

Many states have established teacher performance standards; those linked to professional-development programs lead to better teaching. States have also connected teacher standards to standards for students. Research shows that professional development related to state standards initiatives, such as student portfolios, improves instruction. Such systemic reform establishes accountability throughout a state's educational system. Increasingly, districts also hire new teachers only from nationally accredited institutions and encourage teacher certification from the National Board for Professional Teaching Standards. Further, some state policies influence professional-development design and quality at the local level. For instance, New Jersey provides guidelines for content, implementation, and assessment of professional development in school districts, recommending strategic professional-development planning aligned with district and school goals.

Nongovernmental agencies have also set standards for teachers or generated documents influencing standards. Among these is the International Reading Association, which has long set priorities for teaching reading. The American Federation of Teachers produced documents affecting standards like *Reading Is Rocket Science: What Expert Teachers of Reading Should Know and Be Able to Do*; and the Learning First Alliance, a consortium of professional organizations, produced *Every Child Reading: A Professional Development Guide*.

Implementation Issues

Until recently, ineffective teaching was rarely cited as a cause of reading problems, though it seems obvious that ineffective instruction contributes to low achievement. In the current educational climate, with reading initiatives proliferating, a major policy concern is providing professional development for the many teachers inadequately prepared to help students meet high literacy standards. Current research highlights the need for career-long, high-quality professional development to improve literacy instruction. However, since the research base is limited, there is little evidence to demonstrate how best to design strong programs for continuous student improvement in literacy. As researchers and practitioners build evidence, they should address the following issues.

Making the Case

Decision makers are more likely to enhance resources for professional development when plans are integrated into school-improvement strategies. A broad stakeholder base helps produce successful plans. Planners should define professional development to embrace not only special workshops but also regular activities like curriculum revision and school-improvement work. Programs should document effectiveness of professional development for staff, students, and schools, using school performance indicators, classroom assessments, and personal testimony. The concerns of all members of the educational community should be included in planning and implementation. Finally, a program's excellence makes the best case for it.

Adult Learners

In designing professional development, adult learners' needs should be considered. Teachers' abundant knowledge, experience, skill, and firm beliefs about teaching and learning must be respected. Changing their views about effective instruction must be gradually facilitated by encouraging questioning and reexaminating of teaching processes and assumptions. Moreover, adults are goal oriented and desire practical solutions. Thus, professional development works best when theories emerge from exploring instructional issues that teachers confront daily. Effective professional development will address issues on teachers' minds, such as preparing students for high-stakes tests or teaching word-study skills, while providing theoretical support for problem solving.

Adults are also flexible learners, familiar with many learning contexts. Having high expectations for professional development, they will embrace good ideas about improving instruction but will want ongoing support, participation, and dialogue with administrators as they work to build a learning community. Finally, since adults have many commitments, professional development must make good use of time and build on teachers' natural motivation to learn.

Urban Professional Development

Since urban schools often face challenges that hamper efforts to advance effective professional development, issues affecting them need scrutiny. One arises from tension between those stressing cultural

diversity in professional development and those stressing principles beneficial to all students. Although attention to cultural diversity is critical, planners need to balance professional-development content so that key principles are not overlooked. Another issue involves practices in urban schools that constrain teacher initiative, encouraging a custodial rather than an instructional environment. Such practices must be addressed in professional-development programs as challenges that need not prevent collaboration toward solutions.

Strategies

Most professional development is delivered through infrequent inservice workshops that may consist of varied offerings unrelated to teachers' perceived needs. Some districts are moving beyond these one-shot opportunities to a series of focused workshops reflecting needs of particular teachers or schools. These opportunities feature collaboration among teachers and administrators and small-group inquiry models in which participants set their own goals. External experts are used to address particular needs. These efforts aim at building a learning community with a shared vision for improved instruction. They use several professional-development models, including faculty study groups, peer coaching, and mentor coaching.

Faculty Study Groups

Faculty study groups, which may involve new faculty, grade-level teachers, or other groups with specific goals, can support curricular and instructional innovations, integrate instructional programs, target schoolwide needs, and monitor the impact of changes on students. Groups of six members or less meeting weekly for an hour often work best. The first meeting should establish norms for expected participation and leadership. Rotating leaders can maintain equality.

The group should develop an action plan including specific needs to investigate, resources, training events, and ways to ascertain student change. Events should include group observation and practice as well as presentation of theories underlying skills examined. After each meeting, a group report should confirm actions taken and illustrate progress. Reports can include summaries, descriptions of classroom application of skills, future meeting plans, and concerns and recommendations. Further, groups should establish communications networks by sharing notes between groups, posting reports, creating newsletters, and holding whole-faculty study groups. Students and district leaders should be involved in networks.

Groups should periodically evaluate effectiveness. Using the action plan as a guide, group functioning and impact on students and school culture should be assessed. Assessment can ensure that topics are substantive and practical and that members participate and appreciate each other's ideas.

Peer Coaching

Some districts combine workshops with coaching, which allows for personalized attention to specific concerns. Teachers gain opportunities for action, observation, and reflection with knowledgeable, interested others. Peer coaching involves teams formed to develop specific skills or find new ways to meet school goals, such as integrating new classroom writing strategies.

The peer-coaching process involves skill acquisition through practice, observation, and feedback. Teams should study the theory behind target skills through reading, presentations, and discussions. Members should observe demonstrations of new skills, then practice them with peer coaches to clarify mistakes, develop abilities, and learn from others. The practice conditions should simulate the classroom. Crucial is feedback on practice, which should take place soon after training and be specific and nonevaluative.

Follow-up should include continued collaborative problem solving, lesson planning, and curriculum analysis. Team members may coach each other in classrooms. Role switching, so that the same member serves as coach and learner, can foster collegiality and insight. Evaluation of team effectiveness is important. Team members should ask each other whether feedback is supportive and helpful and whether teachers are developing confidence and skill mastery. Moreover, the team should make sure it is solving problems and generating new ideas.

Mentor Coaching

In mentor coaching, a master teacher or staff developer works closely and regularly with a group of teachers. This coaching affords teachers time to apply and adapt new learning with the guidance of an expert facilitator. Research shows that mentoring can reduce attrition among new teachers and create an environment in which teachers are willing to try new approaches. A mentor-coaching session may involve skill demonstration or classroom observation by the mentor, followed by discussions allowing analysis of and reflection on specific procedures. This feedback makes teachers more aware of their decision-making processes and how they relate to available pedagogical knowledge. Principles of effective mentoring include creating a trusting context with dissonance that encourages new learning, understanding what the teacher knows, and connecting mentor and teacher agendas so that both can meet goals.

Summary

Professional development should play a dominant part, particularly in the reading field, in educational reform efforts currently focused on standards and assessment. Although more rigorous, long-term study is needed to link professional development to student achievement, current research demonstrates the elements needed if professional development is to succeed in changing teachers' behaviors. Since the nation's future requires excellent literacy education, excellent, ongoing professional development is necessary now. ⌘

Reading in Discipline/Content Materials

Donna Alvermann, University of Georgia

Reading-instructional methods in discipline/content materials differ from those in beginning reading instruction. A common rationale for this distinction is that students learn to read before they read to learn. However, separating the act of reading from reading to learn makes little sense. Beginning readers differ developmentally from skilled readers because of the content they read, not because of their purpose for reading. This article outlines the history of content area reading, which is distinct from that of beginning reading. Then it reviews research on effective methods of instruction in content area reading and discusses practical implications of that research. Concluding thoughts consider what we still need to know in this field.

History

Content area reading has its roots in early 20th-century work on the relation of studying to reading. As the century progressed, the reading profession became increasingly aware of the need to teach secondary and college students how to comprehend and retain textbook content. In 1970, Harold Herber introduced a method for integrating reading instruction with subject-matter textbooks at the secondary level. Since then, numerous textbooks have followed Herber's lead, assuming that content determines the reading process and is not separate from it.

More recently, theory on content area methods has given way to adolescent literacy methods. These still focus on helping students understand discipline materials. However, they also encompass cognitive and sociocultural perspectives as well as issues of technology, diversity, and strategy instruction. A few methods texts take the new critical literacies approach. This approach goes beyond reading for literal or inferential meaning to emphasize that textual interpretation varies for different individuals reading in different contexts. Despite such recent theoretical developments, much reading-instructional practice remains rooted in content area reading strategies.

Instructional Methods

Four methods are common to reading instruction in discipline/content materials. These involve (a) teaching text-comprehension strategies, (b) preteaching content area vocabulary, (c) engaging students with text-based discussion, and (d) integrating literacy instruction across the curriculum (a method grounded more in practice than research). All four methods accord with principles of effective teaching.

Text-Comprehension Strategies

The goal of text-comprehension strategies is to foster independent reading that is based on thoughtful interaction between reader and text. Research supports this method. For example, the National Reading Panel's review of research demonstrated that seven categories of text-comprehension instruction are effective:

- *comprehension monitoring*, where readers become aware of their understanding;
- *cooperative learning*, where students learn strategies together;
- *graphic organizers*, where graphic representations of material assist comprehension;
- *question answering*, where readers answer teacher questions and receive feedback;
- *question generation*, where readers are stimulated to ask questions about texts;
- *story structure*, where structure is taught as a means of recalling content; and
- *summarization*, where readers integrate and generalize from ideas.

These categories may be related to improved reading, but they say little about the context of comprehension instruction. Qualitative research on science instruction reveals that it is the joint actions of teachers and learners that are crucial in contexts leading to effective comprehension. For instance, one study found that attention to individual students' problems and teacher generation of study guides—which can mediate reading difficulties, focus students on key concepts, and stimulate cooperative work in the classroom—were important to improved reading. Another study showed teachers and students constructing a science classroom environment in which students' voices became part of both process and content. Such cooperative learning allowed students to find their own best learning methods.

Preteaching Vocabulary

The need for both direct and indirect instruction in content area vocabulary is generally accepted, given the difficulty of specialized reading materials. The National Reading Panel has indicated that preteaching vocabulary tends to improve text comprehension; computer-assisted vocabulary instruction sometimes bests traditional methods. While indirect learning can boost vocabulary, the panel found advantage in structuring tasks for multiple exposures to words in different contexts and in using easier words in activities for low-achieving students. In qualitative classroom research, think-aloud dialogue with students about the meanings of words has added three important findings. First, students tend to use similar strategies—context clues, word analysis, and outside

help—to determine meaning. Second, they tend to use multiple strategies and accept the definitions they arrive at. Finally, students tend to believe that learning new words is critical to good reading.

Text-Based Discussions

Teachers' goals for text-based discussion include enriching understanding of content and guiding students' higher order thinking abilities so that they move beyond literal understanding of texts. Discussion also helps nonnative English speakers understand what they read by allowing them to hear ideas found in texts explained in their peers' language. The rationale for text-based discussion derives from the perspective of the sociolinguist Vygotsky. This view assumes that students benefit not just from independent learning but also from communicating with someone more knowledgeable.

In the past two decades, reading educators have gained awareness of the advantages of student-centered discussion of subject matter over conventional, teacher-centered communication. Since the 1970s, small-scale sociolinguistic studies have analyzed discussion to evaluate the communicative competence of elementary students and the complex demands of classroom communications between teachers and students. These helpful descriptive studies were limited in what they had to say about text-based discussions of content area reading.

However, these studies did provide a starting point for more recent research on content area reading at the middle- and secondary-school levels. This research is based on common ideas from this sociolinguistic research: (a) *Learning is social*, and examining interpersonal behaviors leads to new understandings of cognition and communication; (b) *learning is integrated*, with strong interrelationships between oral and written language learning; and (c) *learning requires active student engagement* in classrooms, since engaged readers have the best chance of achieving full communicative competence.

The appeal obvious in these ideas can be seen in the burgeoning professional literature on class discussion in content area classrooms. The ideas seem most attractive to teachers valuing a supportive classroom environment that provides opportunities for dialogue based on content and related to students' diverse personal experiences.

Qualitative research shows marked contrasts in what is considered class discussion in different classrooms. Some teachers count as discussion conventional, teacher-centered transmission approaches like lectures, question-and-answer recitation, small-group discussions, assessment-related talk, and open-ended whole-class discussions. Other teachers count as discussion more participatory, student-centered approaches like peer-led discussions, reading and writing workshops, and group projects. These teachers struggle to balance focus on skills and strategies with focus on personal response (as do more conventional teachers when students' responses conflict with teachers' concepts of worthwhile discussion). Whether discussion activities are transmissive, participatory, or a blend, it is *students'* perceptions of the value of discussion that account for their degree of engagement.

Integrated Instruction

Integrated literacy instruction aims to teach English language arts functionally and within discipline-specific areas, with content driving process in principle if not always in practice. Indeed, process is the focus in early grades and in pullout programs for those falling behind in later grades. While influential reading educators have recommended for decades that content should predominate in integrated approaches, much recent professional literature can give the idea that process should prevail. The history of theory and research on the strategy shows that it remains unclear how integration should be implemented.

Since the 1980s, educators have attempted to prepare secondary students better for interdisciplinary reading, and various approaches to integrating language and disciplinary skill instruction have been tried. However, it has never been clear whether language or disciplinary instruction should lead in integration efforts, though analysis has found that approaches emphasize either integrated language processes (reading, listening, speaking, and writing), integrated curriculum (interdisciplinary instruction), or integration of learning experiences (relating in-school and out-of-school learning). Though practitioner articles on integration abound, little data-driven research exists to suggest a preferable integration method. Since integration offers promising directions for curriculum reform, more rigorous research should be carried out to develop a strong conceptual framework for implementing integrated instruction.

Conclusion

This article shows that we know that several instructional methods are able to improve content area reading, especially those that incorporate principles of good teaching like creating supportive classroom environments. However, we still do not know enough about how those methods affect students from diverse cultural and linguistic backgrounds, especially adolescent students.

Moreover, since research has focused on reading strategies aimed at independent extraction of textual information, as the National Reading Panel has shown, we do not know enough about how the comprehension process works for students whose primary means of learning is not print. This narrow view of reading comprehension risks disenfranchising large groups of such students. ⌘

Engagement and Motivation in Reading Instruction

John T. Guthrie, University of Maryland

Studies show that alarming numbers of capable students rarely read without a teacher request and make little effort to use reading-comprehension strategies. Since the amount of reading is strongly associated with reading achievement, nonreading students fall behind. Though they may lack competence, more crucially they lack motivation. Since both competence and commitment are necessary for school-relevant literacy, schools need to incorporate practices ensuring that readers are motivated as well as skilled. This article describes the features of reader motivation, provides a classroom example illustrating a motivational classroom, describes key instructional principles for increasing competence and commitment, reviews research on the principles, and offers conclusions.

Reading Motivation

Competent readers are intrinsically motivated. They read with curiosity, involvement, and preference for challenge. These qualities predict reading frequency and comprehension. Extrinsic motivation—desire for recognition and enjoyment of competition—though associated with intrinsic, is less related to comprehension. Reading teachers value intrinsic motivation but often fail to institute classroom practices that develop it. Building classroom engagement in reading through situational interest can help.

Interest in texts or other objects can be divided into two types, individual and situational. Individual interest endures through various encounters with an object, while situational interest is transitory affective engagement with an object. In schools, situational interest is often evoked through hands-on activities. An encounter with an unusual animal, for instance, will arouse and focus attention, even if no lasting interest develops.

Situational interest can direct many literacy activities. Tangible objects can initiate reading-comprehension activities in informational texts. Interest in objects readily transfers to reading about them, and that may spur interest in related topics, building comprehension. Attractively designed books can stimulate interest similarly, even in nonreaders. Educators need to foster emergence of intrinsic motivation from situational interest. Teachers can provide a scaffold for this emergence, as the following example illustrates.

Classroom Example

In Sally's elementary classroom, she has been integrating reading with science and social-studies instruction. She is now teaching a unit on birds in relation to world environments. The classroom displays related materials like feathers and live birds. Lining the room are books on birds and climates. Sally currently directs instruction toward environmental survival and related topics like eating, locomotion, and defense. Inquiry into these concepts helps children focus their interests, as do real-world activities like dissecting owl pellets. To boost interest, Sally encourages children to ask questions and investigate answers through reading and writing.

Sally uses books about birds to discuss the organization of informational books. She teaches students how to use these books to satisfy their curiosity about birds, explaining the table of contents, index, and paragraph headings and showing how pictures relate to text. She follows her explanation of book features with an exercise in which classmates choose a favorite question about a survival topic and discuss which book features, such as the index, can help them answer it. They then search for answers, locating relevant information in books of varying difficulty. Next, they share answers and document them with textual evidence. Finally, students collaborate to answer survival questions about animals in different climates. In this way they extend both their scientific knowledge and reading skill.

Instructional Principles

Visible in the classroom example are practices largely present in classrooms fostering reading engagement and absent in less engaged classrooms. These six practices serve as principles for supporting more engaged reading.

Using Knowledge Goals

Goals for reading instruction should be primarily oriented toward knowledge, not cognitive strategies like questioning and summarizing, since the strategies are learned more easily if anchored to conceptual knowledge. If tasks focused on strategies are linked to building interesting knowledge, students are more likely to learn and use the strategies as means to the desired end of extended understanding. Further, linking reading instruction to knowledge goals allows teachers to build frameworks like Sally's for deeper reading.

Linking Real-World Experience to Reading

Experiences with tangible objects and events should be linked to reading, since text related to such experiences will likely be read with keen attention and processed more deeply, as students' curiosity leads them to sustained efforts to understand. Interesting experiences develop desirable reading skills, including prior knowledge use, questioning, comprehension monitoring, and idea organization. Teachers

can then help students implement these strategies deliberately.

Supporting Students' Autonomy

To help bridge situational interest and intrinsic motivation, teachers should support students' process of choosing and behaving autonomously. If teachers link choices to learning activities, academic achievement improves. Since different children experience the same learning object uniquely, what interests them varies. Allowing them to choose ways to explore the object through reading helps sustain interest. Moreover, many children enjoy opportunities for controlling their learning, so encouraging autonomy sustains motivation.

Using Diverse Texts

To evoke situational interest, diverse, interesting texts should be offered. These should have familiar content, vivid details, accessibility, and attractive visual features. Different levels of difficulty should be offered, given the range of reading levels typical in elementary grades. Unlike single textbooks, diverse texts allow students to choose individual interests at levels suitable to their understanding. A range of books thus encourages motivation.

Collaborative Learning

Collaborative learning can increase motivation, since social interaction is gratifying. If students have enjoyed situational interests together, they will collaborate in reading texts and sharing knowledge. Encouraging learning about topics and merging information in group activities can foster collaboration. Enjoyment of this social interchange can mediate between short-term and lasting interest in reading.

Cognitive Strategies

To support students' perception of competence, teachers should provide direct instruction of cognitive strategies like questioning and organizing knowledge. Without mastery of these skills, students will be less able to extend situational interest to deeper understanding and future reading. Empowering students with cognitive tools builds confidence and knowledge, which themselves can motivate further reading gains.

In sum, these instructional practices should be seen as interdependent principles. Reading comprehension relies on motivation, which fuels strategy development. Classrooms fusing cognition and motivation can optimize reading achievement.

Concept-Oriented Reading Instruction

To test these principles, the author and colleagues built them into an instructional framework, Concept-Oriented Reading Instruction (CORI), implemented in Grades 3 and 5. The researchers found that most students involved in CORI improved in reading comprehension and intrinsic motivation, while extrinsic motivation decreased. Crucially, improvement in reading strategies and intrinsic motivation were interlocked. Students who were both motivated and strategic were defined as engaged.

A yearlong comparison of CORI and traditional instruction for students in Grades 3 and 5 was measured on a year-end reading assessment capturing comprehension, strategies, motivation, and science knowledge. CORI students outperformed traditional ones by 20% on using reading strategies with informational texts. In another comparison with new students and two assessments, CORI students outperformed traditional students by 12 to 15% in comprehension. In these comparisons, CORI students demonstrated higher understanding of environmental science concepts. This result depended on students' improved use of reading strategies. Further, while CORI students equaled others in extrinsic motivation, they were higher in intrinsic motivation. This suggests that the instructional framework may foster lasting reading growth.

Conclusions

If experiment designers produce a desired effect on a valid measure of learning, the design has strong support. CORI designers accounted for all factors in improved comprehension, including student characteristics, reading materials, writing activities, motivational support, parental involvement, and administrative factors. This comprehensive design allowed designers to conclude that benefits were intentionally produced. The design also resulted in thorough knowledge of the benefits.

To move beyond experiments to larger scale support of CORI principles, the researchers also investigated whether CORI principles work in other contexts. They examined what factors in reading-comprehension instruction distinguished those schools showing increases on a Maryland accountability test over a 2-year period from schools showing decreases on that test. Instructional factors came from a questionnaire administered to Grades 3 and 5 teachers. Two main factors predicted reading-comprehension achievement gains in Grade 5 (but none in Grade 3). First was integration of reading instruction with science or social-studies content. Second was use of a wide range of books and reading resources in reading instruction. These trends occurred for low- and high-achieving schools. Thus, two CORI principles are associated with successful instruction on a broader scale.

Successful reading programs, especially those for Grades 3 to 5, should embody the six principles of instructional practice described. Research also supports the value of the principles in middle school. When students perceive that the principles prevail in their classrooms, they become engaged, motivated readers and learners, architects of their cognitive growth and affective maturity. ⌘

Good First Teaching
Making the Critical Difference for All Students

Gay Su Pinnell, Ohio State University

Strong early literacy instruction is vital to reading and writing achievement and to literacy in children's lives. Thus, national attention is focused on early reading, with researchers, practitioners, and policymakers investigating what makes for good first teaching. This paper discusses early understandings needed for literacy, instructional approaches for early literacy, and effective professional development for first teaching.

Early Understandings

Research reveals that understanding in 10 interrelated areas supports early literacy success. Instruction in these areas is essential to literacy programs.

1. Children must learn early that *written language is meaningful, purposeful, and enjoyable*. Those seeing adults reading and writing associate language with writing and appreciate conventions of sentence and story organization, narrative characterization, words uncommon in speech, writing for communication and recording, and enjoyable sound and rhythmic features. Children without such exposure need explicit instruction and encouragement in using writing.
2. Early readers *explore many print concepts* before they can decode words. They need strong teaching to introduce them to the use of graphic symbols and conventions of written English, including letters, words, print direction, and punctuation.
3. Early readers must grasp the alphabetic principle that letters represent sound units. In speech, sound units are not isolated, making it hard to learn words' phonological structure. Children need to learn to analyze and compare sounds; this skill is *phonological awareness*, the foundation for understanding letter–sound relationships. *Phonemic awareness*, the ability to identify specific sounds, is built on phonological awareness and includes phoneme identification, isolation of sound placement in words, sound sequencing, and sound blending.
4. Children must learn to *distinguish letters* from each other and name them. These skills must be coupled with rapid identification of letters embedded in text and experience with directional movements needed to form letters.
5. *Connecting sounds and letters* is fundamental to word recognition and word solving. Phonics helps students discover letter–sound connections. Associating sounds with visual cues can increase phonological awareness. Some letter–sound connections in English are difficult to learn because they are complex rather than phonetically regular. To learn connections, young readers need knowledge of links between sounds and common letter clusters, becoming aware that a letter may link to different sounds and a sound to different letters.
6. From exposure to meaningful print, children usually learn some high-frequency words by sight before instruction in phonological decoding. These examples facilitate further letter–sound learning and *word recognition* that accelerates progress. Sight recognition is important for basic words like "the" that are hard to decode phonetically. Since words presented in isolation are easy to focus on and those presented in context are interesting, teachers should use both methods.
7. Students must learn complex letter–sound relationships with *attention to larger word parts and spelling patterns*. Through direct teaching and independent reading practice, students learn important patterns like the role of silent *e*, the effect of consonants on nearby vowels, and common clusters as in participles. This knowledge establishes categories that can be rapidly used to decode words while reading.
8. Through *building and connecting words*, children learn operations needed to add affixes. They also form categories for understanding spelling conventions like plurals and contractions.
9. Early readers must *learn word meanings* as they decode letter–sound relationships. Understanding a range of words orally is advantageous in decoding written words.
10. Students must use various *word-solving strategies* while reading or writing continuous text. Good readers combine these strategies with prior knowledge and comprehension strategies for smooth, accurate reading. Most children in kindergarten and first grade are just beginning to combine strategies flexibly, but as they apply them to increasingly challenging texts, they develop smoothly operating processes for taking words apart while processing language and reading for meaning. Successful readers can silently read books with multisyllabic words by the end of first grade. They recognize most words and can use language and context clues to solve others. Second graders extend these abilities, improving at reading for meaning and using cognitive strategies like self-correction, inference, and summarizing. Mastering more difficult texts, they become better thinkers and reading problem solvers.

Instructional Approaches

Early readers need explicit teaching of valuable strategies and plentiful opportunities for applying them to continuous text. They also need opportunities to combine reading and writing. Thus, reading programs should include a *comprehensive* set of components allowing for skill transfer across areas without emphasizing one component over others. Comprehensive, integrated

instruction should support children's learning in the following contexts.

READING

Reading *to* children provides models of written language for internalization, and reading *with* them teaches print features and high-frequency words. *Guided* reading groups children with similar needs to develop skills. Teachers should select texts just beyond the level at which groups can read independently and provide explicit instruction to expand abilities. Teachers should guide work on basic understandings. Over time, teachers must come to know their books, placing them in order of difficulty, and know their students, learning their specific abilities. Finally, *independent* reading allows children to gain reading experience, expand fluency, and solidify learning.

WRITING

Beginning readers need many opportunities to write. *Group writing activities* allow them to produce common texts. Composing stories and informational pieces together, they learn purposes for writing and ways to extend compositions. Teachers can use group activities to demonstrate print concepts. In *writing workshops*, students learn strategies, produce independent compositions, and are encouraged to write in many genres.

WORD STUDY

Comprehensive instruction should include direct attention to phonemic awareness (for beginning readers), phonics, and spelling. A word-study program uses brief *minilessons* based on what students must learn to solve words. These lessons may focus on the basic understandings discussed above and, to reinforce learning, may be combined with reading and writing tasks.

In sum, effective early reading instruction includes a range of approaches, some showing students what to do and some allowing students to discover principles. From kindergarten on, all the information children learn about reading is integrated through active text processing and meaning construction.

Professional Development

Reading theorist Marie Clay argues that although good readers share a similar range of integrated cognitive strategies, learners take different paths to this outcome. Reading instruction should be consistent with students' individual needs. For instance, one child may need intensive work linking sounds and letters, while another may need to focus on understanding meanings. Reading teachers should try to meet the needs of all students, even if some need additional tutoring.

The knowledge required for early reading instruction cannot be developed through a few university courses and curriculum guides alone. Effective teachers must know more about complexities of reading, developmental paths to literacy, assessing abilities, and determining what students must learn next. Teachers must also learn to manage large classrooms and adapt theories of reading to match understanding of student progress. Guiding development of this knowledge is daunting for teacher educators.

The author and colleagues have developed a comprehensive, systemic school-development initiative, called the "Literacy Collaborative," which *is not an approach to teaching reading*. It is an organizational structure and school-improvement plan allowing schools to continually take on new, research-based approaches to developing literacy. In initiative schools, classrooms display a variety of reading materials. Teachers reserve much time for reading and writing, which they teach explicitly and intensively, using a comprehensive literacy curriculum. The initiative features continual assessment consistent with national literacy standards; assessment results indicate that in the 4th implementation year, 78% of involved schools showed improvement on standardized reading tests. Most of these schools serve populations with high poverty levels. Crucial to these results is a professional-development program featuring in-school literacy coordinators available for teacher coaching, ongoing training, and informal interactions. This support facilitates classroom improvement. Further, involved schools use the Reading Recovery tutoring program as a safety net for first graders with extreme difficulties. Finally, schools collaborate with caregivers and the wider school community, fostering reading at home.

The initiative builds on research showing the value of systemic reading support. Longitudinal research indicates that safety nets like Reading Recovery, combined with intensive instruction, improve reading achievement. Studies also show that educational improvement requires teamwork, shared vision, systemic change, professional development, and implementation of learning goals like those described above.

Conclusion

Though we know much about how children learn to read and how effective early reading classrooms work, putting this knowledge into action is difficult. The task requires a broad range of teacher-education and school-development strategies. Teaching must be seen as a career-long learning process, if what we know about reading instruction is to be practiced effectively in all schools. ⌘

The LSS REVIEW

Mark Rohland
Editor

This publication is supported in part by the Mid-Atlantic Regional Educational Laboratory, the Laboratory for Student Success. The opinions expressed do not necessarily reflect the position of the supporting agencies, and no official endorsement should be inferred.

For more information, write LSS, Temple University Center for Research in Human Development and Education, 1301 Cecil B. Moore Avenue, Philadelphia, PA 19122-6091, or call (215) 204-3000. Selected LSS publications and abstracts of articles, including back issues of *The LSS Review* and the CEIC *Review*, are available at http://www.temple.edu/LSS/ceicmain.htm

Temple University Center for Research
in Human Development and Education
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6091

Non-Profit
U.S. Postage Paid
Philadelphia, PA
Permit No. 1044

Three new books forthcoming from **LSS** and **Information Age Publishing**:

Available Fall 2002:

A volume on successful reading instruction based on the conference reported in this issue of ***The LSS Review***.

Available Spring 2002:

Taking Small Classes One Step Further

Efficiency, Accountability, and Equity Issues in Title I Schoolwide Program Implementation

Visit our newly redesigned website at www.temple.edu/lss for information about these important contributions to educational research.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

Reproduction Basis

	This document is covered by a signed "Reproduction Release (Blanket)" form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.
X	This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").